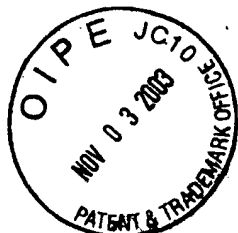


2597



Practitioner's Docket No. 56377 (70904)  
**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: T. Ohta, et al.  
Application No.: 09/925,909      Group No.: 2697  
Filed: August 9, 2001      Examiner: Liu, Ming Hun  
For: SIGNAL LINE DRIVE CIRCUIT, IMAGE DISPLAY DEVICE AND  
PORTABLE APPARATUS

**Mail Stop: Non-Fee Amendment**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

**RECEIVED**

NOV 04 2003

Technology Center 2600

**AMENDMENT TRANSMITTAL**

1. Transmitted herewith is a Request for Reconsideration for this application.

**STATUS**

2. Applicant is  
[ ] a small entity. A statement:  
[ ] is attached.  
[ ] was already filed.  
[ X ] other than a small entity.

**EXTENSION OF TERM**

*NOTE: "Extension of Time in Patent Cases (Supplement Amendments) -- If a timely and complete response has been filed after a*

---

**CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. SECTION 1.8(a))**

I hereby certify that, on the date shown below, this correspondence is being:

**MAILING**

- [ x ] deposited with the United States Postal Service  
with sufficient postage as first class mail in an  
envelope addressed to the Commissioner for  
Patents, P.O. Box 1450, Alexandria, VA 22313-  
1450.

**FACSIMILE**

- [ ] transmitted by facsimile to the Patent and  
Trademark Office (703) \_\_\_\_-\_\_\_\_.

Kathryn A. Grindrod

Signature

Date: October 31, 2003

Kathryn A. Grindrod  
(type or print name of person certifying)

(Amendment Transmittal--page 1 of 4)

*Non-Final Office Action, an extension of time is not required to permit filing and/or entry of an additional amendment after expiration of the shortened statutory period.*

*If a timely response has been filed after a Final Office Action, an extension of time is required to permit filing and/or entry of a Notice of Appeal or filing and/or entry of an additional amendment after expiration of the shortened statutory period unless the timely-filed response placed the application in condition for allowance. Of course, if a Notice of Appeal has been filed within the shortened statutory period, the period has ceased to run." Notice of December 10, 1985 (1061 O.G. 34-35).*

NOTE: See 37 C.F.R. Section 1.645 for extensions of time in interference proceedings, and 37 C.F.R. Section 1.550(c) for extensions of time in reexamination proceedings.

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. Section 1.136 apply.

*(complete (a) or (b), as applicable)*

- (a) ☐ Applicant petitions for an extension of time under 37 C.F.R. Section 1.136 (fees: 37 C.F.R. Section 1.17(a)(1)-(4)) for the total number of months checked below:

	Extension (months)	Fee for other than <u>small entity</u>	Fee for <u>small entity</u>
<input type="checkbox"/>	one month	\$ 110.00	\$ 55.00
<input type="checkbox"/>	two months	\$ 420.00	\$ 210.00
<input type="checkbox"/>	three months	\$ 950.00	\$ 475.00
<input type="checkbox"/>	four months	\$ 1,480.00	\$ 740.00

Fee: \$ \_\_\_\_\_

If an additional extension of time is required, please consider this a petition therefor.

*(check and complete the next item, if applicable)*

- ☐ An extension for \_\_\_\_\_ months has already been secured. The fee paid therefor of \$ \_\_\_\_\_ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request \$ \_\_\_\_\_

OR

- (b) ☒ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

## FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. Section 1.16(b)-(d)) has been calculated as shown below

(Col.1)	(Col. 2)	SMALL ENTITY			OR	OTHER THAN A SMALL ENTITY	
Claims Remaining After Amendment	Highest No. Previously Paid For	Present Extra	Rate	Addit. Fee		Rate	Addit. Fee
			<b>\$9.00</b>	<b>\$</b>		<b>\$18.00</b>	<b>\$</b>
Independent Claims			<b>\$43.00</b>	<b>\$</b>		<b>\$86.00</b>	<b>\$</b>
First Presentation of Multiple Dependent Claim+			<b>\$145.00</b>	<b>\$</b>		<b>\$290.00</b>	<b>\$</b>
						<b>Total Addit. Fee</b>	<b>\$</b>

\* If the entry in Col. 1 is less than the entry in Col. 2, write "O" in Col. 3,

\*\* If the "Highest No. Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest No. Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest No. Previously Paid For" (Total or Indep.) is the highest number found in the appropriate box in Col. 1 of a prior amendment or the number of claims originally filed.

**WARNING:** *"After final rejection or action (Section 1.113) amendments may be made canceling claims or complying with any requirement of form which has been made." 37 C.F.R. Section 1.116(a) (emphasis added).*

*(complete (c) or (d), as applicable)*

(c) ☒ No additional fee for claims is required.

**OR**

(d) ☐ Total additional fee for claims required \$ \_\_\_\_\_.

### FEE PAYMENT

5. ☐ Attached is a check in the sum of \$ \_\_\_\_\_.
- ☐ Charge Account No. \_\_\_\_\_ the sum of \$ \_\_\_\_\_.
- A duplicate of this transmittal is attached.

## FEE DEFICIENCY

*NOTE: If there is a fee deficiency and there is no authorization to charge an account, additional fees are necessary to cover the additional time consumed in making up the original deficiency. If the maximum, six-month period has expired before the deficiency is noted and corrected, the application is held abandoned. In those instances where authorization to charge is included, processing delays are encountered in returning the papers to the PTO Finance Branch in order to apply these charges prior to action on the cases. Authorization to charge the deposit account for any fee deficiency should be checked. See the Notice of April 7, 1986, (1065 O.G. 31-33).*

6. ☒ If any additional extension and/or fee is required, charge Account No. 04-1105.

### AND/OR

- ☒ If any additional fee for claims is required, charge Account No. 04-1105.

Date: October 31, 2003

David A. Tucker  
SIGNATURE OF PRACTITIONER

Reg. No. 27,840

David A. Tucker  
(type or print name of practitioner)  
Attorney for Applicant

Tel. No. (617) 517-5508

Edwards & Angell, LLP  
P.O. Box 9169  
P.O. Address

Customer No. 21874

Boston, MA 02209

353497



Attorney Docket No. 56377 (70904)

#6/8  
L Tyson  
12-0983

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: T. Ohta, et al.

EXAMINER: Liu, Ming Hun

SERIAL NO.: 09/925,909

GROUP: 2697

FILED: August 9, 2001

RECEIVED

FOR: SIGNAL LINE DRIVE CIRCUIT, IMAGE DISPLAY DEVICE  
AND PORTABLE APPARATUS

NOV 04 2003

Technology Center 2600

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Box Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on October 31, 2003.

By: Kathryn A. Grindrod  
Kathryn A. Grindrod

Box Non-Fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

RESPONSE TO OFFICIAL ACTION

This is in response to the non-final Official Action currently outstanding in the above-identified application.

Applicants respectfully **traverse** each and all of the currently outstanding rejections of the claims of the above-identified application for the reasons stated below. Accordingly, no restatement of the currently pending claims of this application is believed to be required as part of this Response.

More particularly, Claims 1-24 were pending in this application at the time of the issuance of the currently outstanding Official Action. In response, no claims are amended, no claims are cancelled and no claims are added. Accordingly, Claims 1-24 as originally filed in the above-identified application still constitute the claims pending in this application.

In the currently outstanding Official Action, the Examiner has:

1. Failed to acknowledge Applicants claim for foreign priority under 35 USC 119(a)-(d) or (f), and failed to acknowledge the receipt of the required certified copies of the priority documents for this application by the United States Patent and Trademark Office;
2. Provided Applicants with a copy of the Form PTO-1449 that accompanied their Information Disclosure Statement of November 1, 2001 duly signed, dated and initialed by the Examiner in confirmation of his consideration of the art listed therein, but failed to provide Applicants with copies of the Forms PTO-1449 that accompanied their Information Disclosure Statements of September 25, 2003 and October 6, 2003 duly signed, dated and initialed by the Examiner to confirm his consideration of the art listed in those documents;
3. Failed to provide Applicants with an indication concerning the acceptability of the drawings filed as part of this application;
4. Rejected Claims 1 and 2 under 35 USC 102(a) as being unpatentable over the Applicant's Admitted Prior Art ("AAPA");

5. Rejected Claims 7 and 8 under 35 USC 102(b) as being unpatentable over US Patent 5,477,234 to Suzuki, et al.;
6. Rejected Claims 3 and 4 under 35 USC 103(a) as being unpatentable over the combination of the Applicants' Admitted Prior Art and US Patent 6,278,426 to Akiyama;
7. Rejected Claims 5 and 6 under 35 USC 103(a) as being unpatentable over the combination of the Applicants' Admitted Prior Art and US Patent 5,570,105 to Koyama;
8. Rejected Claims 9-24 under 35 USC 103(a) as being unpatentable over the combination of Applicants' Admitted Prior Art and the Suzuki et al. reference in view of the Koyama reference and the Akiyama reference; and
9. Cited certain prior art as being pertinent to Applicants Disclosure, but failed to apply that art against any of the claims.

With respect to item 1, Applicants respectfully request that the Examiner formally acknowledge their claim of foreign priority and the receipt of the required certified copies of the priority documents by the United States Patent and Trademark Office in response to this communication.

With respect to item 2, Applicants respectfully request that the Examiner provide them with copies of the Forms PTO-1449 that accompanied their Information Disclosure Statements of September 25, 2003 and October 6, 2003 duly signed, dated and initialed by the Examiner to confirm his consideration of the art listed therein.

With respect to item 3, Applicants respectfully request that they be provided with an indication concerning the acceptability of the drawings filed as part of this application in response to this communication.

Summarily stated, the Applicants' response to the currently outstanding rejections of the claims of the above-identified application is that (i) the references when considered in detail do not support the Examiner's characterizations of them, and/or (ii) the references are insufficient to establish the *prima facie* case of unpatentability that the Examiner is required to supply in support of rejections.

Turning first to item 4 above, the Examiner rejects Claims 1 and 2 under 35 USC 102(a) in view of the so-called "Applicant's Admitted Prior Art (AAPA)". Specifically, the Examiner suggests that in the *Background of the Invention* section of the present specification a signal line drive circuit provided with a reference voltage chooser circuit for choosing one of a plurality of incoming voltages in accordance with tones represented by an image signal such that a chosen voltage is output as a signal line drive signal is disclosed. As a general proposition, Applicants basically agree.



The Examiner, however, also suggests that the disclosed signal line drive circuit includes a voltage line *directly transmitting* a first reference voltage supplied by an external reference voltage supply means to the reference voltage chooser circuit. Applicants cannot agree with the Examiner's latter suggestion. More specifically, the present invention differs from the arrangement discussed in the *Background of the Invention* section of the present specification in that the signal line drive circuit of the invention is provided with a reference voltage line for directly inputting (i.e., directly transmitting) to a reference voltage circuit a first reference voltage fed from an external reference voltage supply means.

Thus, it will be understood that the so-called "Applicants' Admitted Prior Art" does **fails** to disclose that **all** of the reference voltages supplied to the reference voltage chooser circuit disclosed **are not directly transmitted** to the reference voltage chooser circuit, but rather discloses that **all of the reference voltages are supplied to the reference voltage chooser circuit through buffers whether those inputs are derived from so-called first reference voltages VB1 or second reference voltages VB2 (see Fig. 4).** Hence, the requirement of Claims 1 and 2 that the first reference voltage be *directly* supplied to the reference voltage chooser circuit does not appear to be disclosed in the so-called AAPA. Since an anticipation rejection under 35 USC 102 requires that **all** of the claimed elements be shown in the same prior art reference functioning in the same manner as claimed, Applicants respectfully submit that the Examiner's rejection of Claims 1 and 2 should not be allowed to stand.

In this regard, it is to be noted that Fig. 3 (indicated in the specification as prior art) shows VB1 supplied from an external reference power supply circuit 12 to a signal line drive circuit 111. The arrangement of the signal line drive circuit 111 is specifically shown in Fig. 4 and described in the specification at page 4, line 7 to page 5, line 22. Significantly, a buffer circuit is shown as part of the signal line drive circuit 111. Further, it is shown that VB1 is supplied to a reference voltage select circuit 115 via the buffer circuit 117. Therefore, the arrangement described in the *Background of the Invention* section of the present specification is different from the arrangement where a signal line drive circuit has a reference voltage line to directly input (i.e., directly transmit) to a reference voltage circuit a first reference voltage fed from an external reference power supply means as in the present invention.

Accordingly, Applicants respectfully submit that the conclusion is inescapable that the structure described in the *Background of the Invention* section of the present specification (which the Examiner refers to as Applicants' Admitted Prior Art ("AAPA")) is not the same thing as the structure claimed in presently pending Claims 1 and 2. Therefore, the so-called AAPA cannot be legitimately said to *anticipate* those claims. A decision withdrawing this ground of rejection and allowing Claims 1 and 2 consequently is respectfully requested in response to this communication.

With respect to item 5, the Examiner has rejected Claims 7 and 8 under 35 USC 102(b) as being anticipated by the Suzuki reference. In this regard, Applicants fail to find a third control signal to change the decoder table at Column 3, line 66 to Column 4, line 8 of the Suzuki reference as suggested by the Examiner, or for that matter anywhere else in the Suzuki reference. Instead, at Column 3, line 66 to Column 4, line 8 of the Suzuki reference it is described that the numbers of lamp signals, switches and voltage levels may be specified as necessary.

Certainly, however, Suzuki's general comments indicating that the various parameters discussed in the main portion of the specification can be varied as a matter of design choice are insufficient in and of themselves to support the Examiner's suggestion that the structure actually disclosed by the reference is such that a control signal that can be used to change the decoder table as in the present invention is anticipated. Indeed, it presently appears to Applicants that the true import of the Suzuki statements referred to by the Examiner is that various structures are possible within the contemplation of his invention, not that a different decoder table may be chosen within the same structure based upon a so-called "third control signal" as the same is referred to in the present specification. Hence, the Examiner's rejections of claim 7 and 8 as being anticipated by Suzuki et al do not appear to be supported by the actual disclosure of the Suzuki reference.

Accordingly, since the Suzuki et al reference fails to disclose all of the elements of the claims against which it is cited in the same combination as claimed, Applicants respectfully submit that the Examiner's rejection under 35 USC 102(b) is inappropriate and should be withdrawn. A decision so holding in response to this communication is respectfully requested.

In item 6, Claims 3 and 4 are rejected as being unpatentable under 35 USC 103(a) over the so-called "AAPA" in view of the Akiyama reference.

A careful review of the Akiyama reference reveals that in Fig. 1 and at Column 4, lines 60-67, among other places, Akiyama describes switches 111 and 112 that power on/off a buffer 105 that supplies a signal to a pixel electrode 114, and a switch 113 that switches on/off the buffer 105 and the pixel 114. These three switches are controlled through a common control signal line 115. Thus, the Akiyama reference shows switches 111 and 112 adapted to be cyclically turned off and on respectively and out of synchronization with the cyclic operation of switch 113 so as to control the flow of current through the buffer 105. The result of this is that the Akiyama reference might be said to broadly disclose the concept of using a switch to turn off the power to a buffer circuit thereby reducing its power consumption when it is not in operation. The context in which the Akiyama reference does this, however, is in the application of a signal to a pixel (switches 111 and 112 closed and switch 113 open) and the holding of the applied signal condition until the next input signal is received (switches 111 and 112 open and switch 113 closed).

The present invention, on the other hand, discloses a first switch turned off with respect to a second reference voltage that does not need to be used with reference to the number of tones of an image signal. Thus, the power consumption of the buffer circuit can be lower. Further, it will be seen that the Akiyama disclosure deals with an entirely different portion of a display device from the signal line driver circuit claimed in the present application, not to mention the fact that unlike the present invention the Akiyama reference requires the interrelated operation of three separate switches to accomplish its objective.

Accordingly, Applicants respectfully submit that the Akiyama reference fails to fairly disclose, teach or suggest the invention claimed in Claims 3 and 4. In other words, the simple facts that the Akiyama reference indicates that switches may be utilized to turn off a buffer circuit when it is not in use and that such will save on power consumption is in and of itself insufficient to teach, disclose or suggest the presently claimed invention to one of ordinary skill in the art.

In the latter regard, Applicants respectfully emphasize that the standard under 35 USC 103(a) is not "obvious to try". Rather, to render a claim unpatentable under 35 USC 103(a) the prior art must contain all of the elements claimed, **and** a suggestion for their combination in the manner claimed. In the present context, while it *may* be arguable that all of the elements claimed are disclosed, the elements of the Akiyama reference are disclosed in a totally different context from that of the present claims. Accordingly, the Akiyama reference does not disclose, teach or suggest anything about how a signal line drive circuit should operate or the use of its elements to accomplish that objective. In short, Applicants respectfully submit that the suggestion for the Examiner's proposed combination is missing from the art relied upon thereby rendering the currently outstanding rejection of Claims 3 and 4 improper in the circumstances. A decision so holding in response to this communication is respectfully requested.

With respect to item 7, Claims 5 and 6 are rejected under 35 USC 103(a) over the so-called AAPA in view of the Koyama reference.

In Fig. 12 and at column 6, line 19-43, the Koyama reference describes a voltage applied to a signal line as being selected according to a tone signal. In Koyama, the switching circuit 1930 is a simple switch used to select a tone signal line corresponding to the tone signal. This circuit, however, is clearly different from the present invention wherein a switch is provided between a first reference voltage and a voltage divider circuit. This is particularly the case because the voltage divider circuit of the present invention is provided in order to produce a second reference voltage by voltage division from at least two of a multiple number of first reference voltages, and because a second switch is provided in order to control the coupling/decoupling of a first voltage to the voltage divider circuit operating in the above alluded to manner.

Stated slightly differently, the Examiner's position appears to be that Koyama shows a so-called "second control switch" interposed between the first reference voltages and the voltage divider circuit. Applicants, however, have been unable to locate any voltage divider circuit in the Koyama reference at all, much less a control signal interposed between the first reference voltages and the voltage divider circuit as in the present invention. Instead, the Koyama reference seems to be dealing with what is referred to in the present application as reference voltage chooser circuitry in which unused gradation lines are turned off by switches. The point of the resistors shown in Koyama is not voltage division, but rather a means by which a constant voltage input can be used to reduce the required AC voltage to drive a particular selected gradation line. This does not disclose, teach or suggest anything about turning off unused portions of a voltage divider circuit used in the generation of reference voltages as in the present invention.

Accordingly, the Examiner's rejections of Claims 5 and 6 under 35 USC 103(a) also are totally insufficient to establish a *prima facie* case (i) that all of the elements claimed are shown in the prior art, and (ii) that their combination in the manner claimed would have been suggested within the four corners of the prior art to one skilled in the art at the time that the present invention was made. Instead, the Examiner's recreation of the claims under consideration from a piecemeal selection of isolated elements of the prior art guided by Applicants' specification and/or an "obvious-to-try" approach is totally insufficient to establish his position.

Accordingly, a decision withdrawing the outstanding rejection and allowing Claims 5 and 6 in response to this communication is respectfully requested.

With respect to item 8, the remainder of the claims are rejected under 35 USC 103(a) based upon a combination of all of the cited and applied art discussed herein. These claims, however, deal with various combinations of features that have been distinguished from the cited and applied art in the foregoing discussion. Since these claims are all dependent from pending independent claims distinguished from the cited and applied art hereinabove, Applicants respectfully submit that it would be redundant to discuss the previously emphasized points in the particular context of each of the dependent Claims 9-24.

Accordingly, Applicants respectfully submit that Claims 9-24 are allowable for the same reasons as stated above. Specifically, Applicants have demonstrated that there is no suggestion for the combinations suggested by the Examiner within the four corners of the prior art, and indeed that the cited art when correctly understood is clearly quite different from the present invention. Thus, in view of the specific differences between the cited and applied art and the present invention discussed herein, as well as the Examiner's failure to establish (except possibly by hindsight or conclusionary deductive reasoning) any support for a person of ordinary skill in the art being lead to the presently claimed combinations from the combined teachings of the cited and applied art, Applicants respectfully submit that the Examiner has totally failed to establish the required *prima facie* case justifying his rejections in the currently outstanding Official Action.

A decision withdrawing the outstanding rejections of Claims 9-24 in view of the foregoing Remarks in response to this communication is therefore respectfully submitted to be required and is respectfully requested.

No further comment concerning item 9 is believed to be required in these Remarks.

For each and all of the foregoing reasons, Applicants respectfully submit that (i) that the references relied upon by the Examiner when considered in detail do not support the Examiner's characterizations of them, and/or (ii) that the references relied upon by the Examiner are insufficient whether taken alone or in combination with one another to establish a *prima facie* case supporting the Examiner's assertion that the claims currently pending in this application are not patentable. Accordingly, Applicants respectfully submit that this application as it currently stand is in condition for allowance, and respectfully request a decision so holding in response to this communication at an early date.

Applicants believe that additional fees are not required for consideration of the foregoing Remarks in support of Applicants' traverse of all of the currently outstanding rejections of the claims of the above-identified application. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge Deposit Account No. **04-1105**.

Respectfully submitted,

Date: October 31, 2003

By: David A. Tucker  
David A. Tucker  
(Reg. No. 27,840)  
Attorney for Applicants

EDWARDS & ANGELL, LLP  
P.O. Box 9169  
Boston, MA 02209  
(617) 517-5508  
BOS2\_353306